

## 05—410 Removal and installation of helical gear shaft

### Tightening torques

	Nm	(kpm)
Screw plug for thrust piece	50	(5)
Retaining bolt M 8	25	(2.5)
Retaining bolt M 10	45	(4.5)

### Note

A modified retaining bolt (123) (arrow) has been introduced so that the thrust piece (124) of the 1st version can be fixed more efficiently.

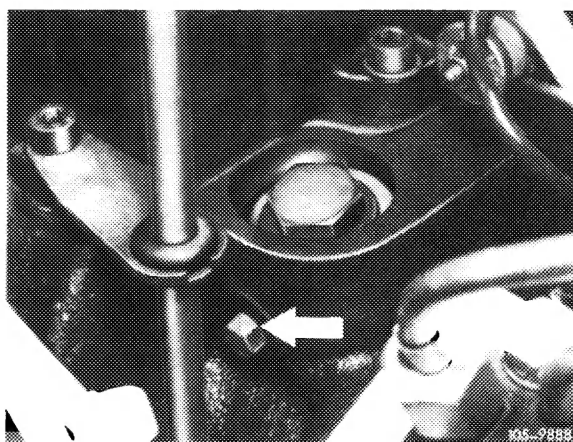
Starting January 1976

In the event of repair to engines with the yellow-chromated retaining bolt (10 mm wrench) remember to use the burnished black retaining bolt as per part No. 615 990 00 15 (13 mm wrench).

A modified thrust piece has been in use since August 1976.

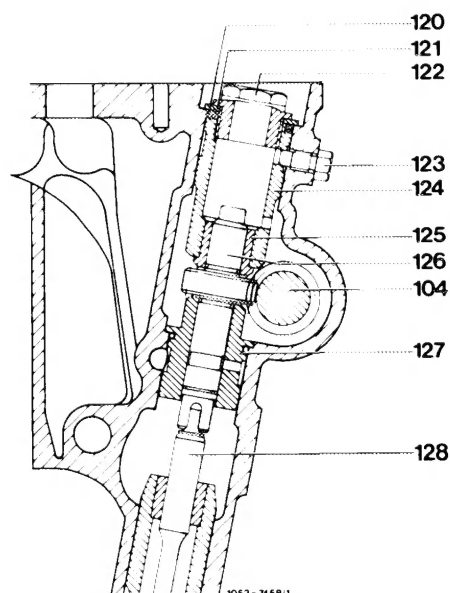
Thrust piece (124) has thicker walls and is used together with an M 10 retaining bolt (previously M 8) and an M 22 x 1.5 screw plug (previously M 28 x 1.5).

The locating pin of the M 10 retaining bolt is 7.8 mm in diameter (M 8 retaining bolt = 5.8 mm).



### 1st version

- 104 Intermediate gear shaft
- 120 O-ring
- 121 Cap
- 122 Screw plug M 26 x 1.5
- 123 Retaining bolt M 8
- 124 Thrust piece
- 125 Bearing bushing
- 126 Helical gear shaft
- 127 Bearing bushing
- 128 Oil pump shaft



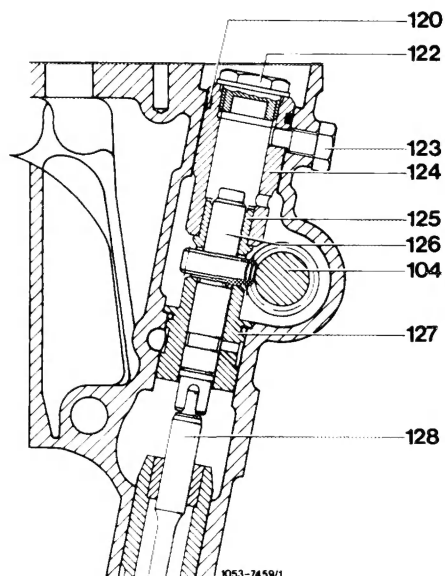
The O-ring seal (120) for the thrust piece is no longer fitted beneath cap (121). It is now inserted in a groove in the outside diameter of the thrust piece. Cap (121) has been discarded.

#### 2nd version

104	Intermediate gear shaft
120	O-ring
122	Screw plug M 22 x 1.5
123	Retaining bolt M 10
124	Thrust piece
125	Bearing bushing
126	Helical gear shaft
127	Bearing bushing
128	Oil pump shaft

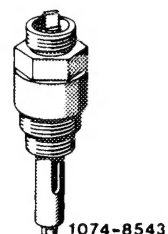
With the exception of the O-ring (120) the parts of the 1st and 2nd versions cannot be interchanged.

The Esslingen-Mettingen spare parts division supplies both versions.



Owing to the modification of screw plug (122) from M 26 x 1.5 to M 22 x 1.5 it is necessary to use an adapter (part No. 616 589 00 63 00) to connect a mechanical rev counter.

This adapter also suits the thrust piece with the M 26 x 1.5 thread.



#### Removal

- 1 Remove screw plug (122).
- 2 On the 1st version, remove cap (121) and O-ring (120).
- 3 Remove retaining bolt (123).
- 4 Withdraw thrust piece (124). If this resists removal, turn screw plug (122) in slightly, position pliers on screw plug and then withdraw thrust piece.

5 Withdraw helical gear shaft (126) using pointed pliers.

6 Withdraw bearing bushing (127), again using pointed pliers.

7 Entire thrust piece (124) will need replacing if end face of bearing bushing (125) in thrust piece is worn; this will also apply to helical gear (126) if its thrust collar shows signs of wear.

8 Check O-ring for porous places and damage, replacing if necessary.

## **Installation**

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9 Insert bearing bushing (127).

10 Insert helical gear shaft (126).

11 Insert thrust piece (124).

### **Caution:**

Carefully position thrust piece of 2nd version in order to avoid damage to O-ring (120).

12 Insert and tighten retaining bolts (123) (reference values 25 Nm and 45 Nm, respectively).

13 On 1st version, fit O-ring and cap.

14 Insert screw plug and torque to 50 Nm (5 kpm).